

**We claim:**

1. A process for the synthesis of highly active modified carbon supported palladium catalyst comprising simultaneously impregnating activated carbon with a palladium precursor and an aluminium precursor.
2. A process as claimed in claim 1 wherein the aluminium precursor used comprises an organic precursor of aluminium.
3. A process as claimed in claim 2 wherein the organic aluminium precursor used comprises aluminium isopropoxide.
4. A process as claimed in claim 1 wherein the palladium precursor used comprises palladium chloride.
5. A process as claimed in claim 1 wherein the palladium loading percentage on the support is in the range of 2 – 6 wt % with respect to the carbon support.
6. A process as claimed in claim 5 wherein the palladium loading percentage on the support is 4 wt% with respect to the carbon support.
7. A process as claimed in claim 1 wherein the loading percentage of alumina in the support is in the range of 1 – 50 wt % with respect to the support.
8. A process as claimed in claim 1 wherein the loading percentage of alumina in the support is in the range of 5 – 20 wt% with respect to the support.
9. A process as claimed in claim 1 wherein the co-impregnation of the support is done in the presence of tetraethyl ammonium hydroxide aqueous solution.
10. A process as claimed in claim 1 wherein the conversion of CFC – 12 is to the order of 85 % and the selectivity to HFC – 32 is to the order of 85 % at atmospheric pressure.
11. Use of a carbon supported palladium catalyst for the hydrodechlorination of dichlorodifluoromethane to produce difluoromethane.